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### 1 [Replication for web hosting systems](#)

**Swaminathan Sivasubramanian, Michal Szymaniak, Guillaume Pierre, Maarten van Steen**  
 September **ACM Computing Surveys (CSUR)**, Volume 36 Issue 3  
 2004

**Publisher:** ACM

Full text available: [PDF](#) (374.99 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 36, Downloads (12 Months): 373, Citation Count: 7

Replication is a well-known technique to improve the accessibility of Web sites. It generally offers reduced client latencies and increases a site's availability. However, applying replication techniques is not trivial, and various Content Delivery Networks ...

**Keywords:** Web replication, content delivery networks

## **2 A taxonomy of Data Grids for distributed data sharing, management, and processing**

 Srikanth Venugopal, Rajkumar Buyya, Kotagiri Ramamohanarao  
June ACM Computing Surveys (CSUR), Volume 38 Issue 1  
2006

**Publisher:** ACM

Full text available:  [PDF](#) (1.70 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [Index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 167, Downloads (12 Months): 1449, Citation Count: 6

Data Grids have been adopted as the next generation platform by many scientific communities that need to share, access, transport, process, and manage large data collections distributed worldwide. They combine high-end computing technologies with high-performance ...

**Keywords:** Grid computing, data-intensive applications, replica management, virtual organizations

## **3 System support for pervasive applications**

 Robert Grimm, Janet Davis, Eric Lemar, Adam Macbeth, Steven Swanson, Thomas Anderson, Brian Bershad, Gaetano Borriello, Steven Gribble, David Wetherall  
November ACM Transactions on Computer Systems (TOCS), Volume 22 Issue 4  
2004

**Publisher:** ACM

Full text available:  [PDF](#) (1.82 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [Index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 43, Downloads (12 Months): 351, Citation Count: 8

Pervasive computing provides an attractive vision for the future of computing. Computational power will be available everywhere. Mobile and stationary devices will dynamically connect and coordinate to seamlessly help people in accomplishing their tasks. ...

**Keywords:** Asynchronous events, checkpointing, discovery, logic/operation pattern, migration, one.world, pervasive computing, structured I/O, tuples, ubiquitous computing

#### **4 The state of the art in distributed query processing**

 Donald Kossmann

December 2000 ACM Computing Surveys (CSUR), Volume 32 Issue 4

**Publisher:** ACM

Full text available:  Pdf (455.39 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 125, Downloads (12 Months): 1216, Citation Count: 45

Distributed data processing is becoming a reality. Businesses want to do it for many reasons, and they often must do it in order to stay competitive. While much of the infrastructure for distributed data processing is already there (e.g., modern network ...

**Keywords:** caching, client-server databases, database application systems, dissemination-based information systems, economic models for query processing, middleware, multitier architectures, query execution, query optimization, replication, wrappers

#### **5 Fast detection of communication patterns in distributed executions**

Thomas Kunz, Michiel F. H. Seuren

November 1997 CASCON '97: Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research

**Publisher:** IBM Press

Full text available:  Pdf (4.21 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 46, Downloads (12 Months): 619, Citation Count: 0

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event ...

#### **6 A formal model for reasoning about adaptive QoS-enabled middleware**

 Nalini Venkatasubramanian, Carolyn Talcott, Gul A. Agha

January 2004 ACM Transactions on Software Engineering and Methodology (TOSEM), Volume 13 Issue 1

**Publisher:** ACM

Full text available:  Pdf (1.42 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 22, Downloads (12 Months): 144, Citation Count: 3

Systems that provide distributed multimedia services are subject to constant evolution; customizable middleware is required to effectively manage this change. Middleware services for resource management execute concurrently with each other, and with ...

**Keywords:** Middleware services, actors, meta-object models, multimedia, quality-of-service, reflection, theoretical foundations

**7** An on-the-fly reference-counting garbage collector for java

 Yossi Levanoni, Erez Petrank

January 2006 ACM Transactions on Programming Languages and Systems (TOPLAS), Volume 28 Issue 1

**Publisher:** ACM

Full text available:  [Pdf \(787.15 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 16, Downloads (12 Months): 155, Citation Count: 1

Reference-counting is traditionally considered unsuitable for multiprocessor systems. According to conventional wisdom, the update of reference slots and reference-counts requires atomic or synchronized operations. In this work we demonstrate this is ...

**Keywords:** Programming languages, garbage collection, memory management, reference-counting

**8** A survey of peer-to-peer content distribution technologies

 Stephanos Androulidakis-Theotokis, Diomidis Spinellis

December 2004 ACM Computing Surveys (CSUR), Volume 36 Issue 4

**Publisher:** ACM

Full text available:  [Pdf \(517.77 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 221, Downloads (12 Months): 2165, Citation Count: 45

Distributed computer architectures labeled "peer-to-peer" are designed for the sharing of computer resources (content, storage, CPU cycles) by direct exchange, rather than requiring the intermediation or support of a centralized server or authority. ...

**Keywords:** Content distribution, DHT, DOLR, grid computing, p2p, peer-to-peer

**9 Cache investment: integrating query optimization and distributed data placement**

 Donald Kossmann, Michael J. Franklin, Gerhard Drasch, Wig Ag December ACM Transactions on Database Systems (TODS), Volume 25 Issue 4 2000

**Publisher:** ACM

Full text available:  Pdf (210.67 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 18, Downloads (12 Months): 108, Citation Count: 8

Emerging distributed query-processing systems support flexible execution strategies in which each query can be run using a combination of data shipping and query shipping. As in any distributed environment, these systems can obtain tremendous performance ...

**Keywords:** cache investment, caching, client-server database systems, data shipping, dynamic data placement, query optimization, query shipping

**10 ACM SIGMOBILE Mobile Computing and Communications Review: Volume 9**

 **Issue 4**

October issue Volume 9 Issue 4 2005

**Publisher:** ACM

Additional Information: [full citation](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): n/a, Downloads (12 Months): n/a, Citation Count: 0

**11 Experience distributing objects in an SMMP OS**

 Jonathan Appavoo, Dilma Da Silva, Orran Krieger, Marc Auslander, Michal Ostrowski, Bryan Rosenberg, Amos Waterland, Robert W. Wisniewski, Jimi Xenidis, Michael Stumm, Lívio Soares

August ACM Transactions on Computer Systems (TOCS), Volume 25 Issue 3 2007

**Publisher:** ACM

Full text available:  Pdf (751.56 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 26, Downloads (12 Months): 316, Citation Count: 2

Designing and implementing system software so that it scales well on shared-memory multiprocessors (SMMPs) has proven to be surprisingly challenging. To improve scalability, most designers to date have focused on concurrency by iteratively eliminating ...

**Keywords:** Concurrency, Distribution, Locality, Scalability SMMP

**12 Design and evaluation of a conit-based continuous consistency model for replicated services**

 Haifeng Yu, Amin Vahdat

August 2002 ACM Transactions on Computer Systems (TOCS), Volume 20 Issue 3

**Publisher:** ACM

Full text available:  [Pdf \(406.85 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 22, Downloads (12 Months): 158, Citation Count: 10

The tradeoffs between consistency, performance, and availability are well understood. Traditionally, however, designers of replicated systems have been forced to choose from either strong consistency guarantees or none at all. This paper explores the ...

**Keywords:** Conit, consistency model, continuous consistency, network services, relaxed consistency, replication

**13 Concurrency and distribution in object-oriented programming**

 Jean-Pierre Briot, Rachid Guerraoui, Klaus-Peter Lohr

September 1998 ACM Computing Surveys (CSUR), Volume 30 Issue 3

**Publisher:** ACM

Full text available:  [Pdf \(289.34 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 33, Downloads (12 Months): 310, Citation Count: 19

This paper aims at discussing and classifying the various ways in which the object paradigm is used in concurrent and distributed contexts. We distinguish among the library approach, the integrative approach, and the ...

**Keywords:** concurrency, distribution, integration, libraries, message passing, object, reflection

**14 Securing distributed storage: challenges, techniques, and systems**

 Vishal Kher, Yongdae Kim

November 2005 StorageSS '05: Proceedings of the 2005 ACM workshop on Storage security and survivability

**Publisher:** ACM

Full text available:  [Pdf \(294.61 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 40, Downloads (12 Months): 360, Citation Count: 4

The rapid increase of sensitive data and the growing number of government regulations that require longterm data retention and protection have forced enterprises to pay serious attention to storage security. In this paper, we discuss important security ...

**Keywords:** authorization, confidentiality, integrity, intrusion detection, privacy

**15** Niobe: A practical replication protocol

 John MacCormick, Chandramohan A. Thekkath, Marcus Jager, Kristof Roomp, Lidong Zhou, Ryan Peterson

February ACM Transactions on Storage (TOS), Volume 3 Issue 4 2008

**Publisher:** ACM

Full text available:  [Pdf \(480.00 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 21, Downloads (12 Months): 193, Citation Count: 0

The task of consistently and reliably replicating data is fundamental in distributed systems, and numerous existing protocols are able to achieve such replication efficiently. When called on to build a large-scale enterprise storage system with built-in ...

**Keywords:** Replication, enterprise storage

**16** Zyzzyva: speculative byzantine fault tolerance

 Ramakrishna Kotla, Lorenzo Alvisi, Mike Dahlin, Allen Clement, Edmund Wong October 2007 ACM SIGOPS Operating Systems Review, Volume 41 Issue 6

**Publisher:** ACM

Full text available:  [Pdf \(462.29 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 47, Downloads (12 Months): 275, Citation Count: 2

We present Zyzzyva, a protocol that uses speculation to reduce the cost and simplify the design of Byzantine fault tolerant state machine replication. In Zyzzyva, replicas respond to a client's request without first running an expensive three-phase commit ...

**Keywords:** byzantine fault tolerance, output commit, replication, speculative execution

**17 Zyzyva: speculative byzantine fault tolerance**

 Ramakrishna Kotla, Lorenzo Alvisi, Mike Dahlin, Allen Clement, Edmund Wong  
October 2007 SOSP '07: Proceedings of twenty-first ACM SIGOPS symposium on  
Operating systems principles

**Publisher:** ACM

Full text available:  Pdf (462.29 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 47, Downloads (12 Months): 275, Citation Count: 2

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**Keywords:** byzantine fault tolerance, output commit, replication, speculative execution

**18 Fast and flexible application-level networking on exokernel systems**

 Gregory R. Ganger, Dawson R. Engler, M. Frans Kaashoek, Hector M. Briceño, Russell Hunt, Thomas Pincney  
February 2002 ACM Transactions on Computer Systems (TOCS), Volume 20 Issue 1

**Publisher:** ACM

Full text available:  Pdf (500.67 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 13, Downloads (12 Months): 73, Citation Count: 9

Application-level networking is a promising software organization for improving performance and functionality for important network services. The Xok/ExOS exokernel system includes application-level support for standard network services, while at ...

**Keywords:** Extensible systems, OS structure, fast servers, network services

**19 Separating agreement from execution for byzantine fault tolerant services**

 Jian Yin, Jean-Philippe Martin, Arun Venkataramani, Lorenzo Alvisi, Mike Dahlin  
December 2003 ACM SIGOPS Operating Systems Review, Volume 37 Issue 5

**Publisher:** ACM

Full text available:  Pdf (355.08 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 23, Downloads (12 Months): 91, Citation Count: 14

We describe a new architecture for Byzantine fault tolerant state machine replication that separates *agreement* that orders requests from *execution* that processes requests. This separation yields two fundamental and practically significant ...

**Keywords:** byzantine fault tolerance, confidentialiy, reliability, security, state machine replication, trustworthy systems

**20 Separating agreement from execution for byzantine fault tolerant services**

 Jian Yin, Jean-Philippe Martin, Arun Venkataramani, Lorenzo Alvisi, Mike Dahlin  
October 2003 SOSP '03: Proceedings of the nineteenth ACM symposium on Operating systems principles

**Publisher:** ACM

Full text available:  [Pdf \(355.08 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 23, Downloads (12 Months): 91, Citation Count: 14

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